



Rev: 3.0
6-57628A
6-57629B

PNE-37850

WATER CLEAR EPOXY

DEFINITION

PNE-37850 encapsulant / adhesive is a low viscosity epoxy resin which is electrically insulating and is commonly used for metals, plastics, ceramics, ferrites, and other hard to bond substrates. The products adhesion to metals, ceramics and FR4 type substrates along with its thermal and chemical stability ensure good protection against environmental factors for electronic components. The PNE-37850 is available as a one- or a two-component system.

PRODUCT DESCRIPTION

Appearance	Liquid
Odor	Faint
Color	Water Clear

Property	Standards	Methods
Viscosity	1,000 cPs	Brookfield RVT, Spindle 14, Small Sample Adaptor, 50 rpm, 25°C

Other information			
Work life time @ 25 ± 2°C	3 days		
Specific gravity @ 25°C (g/cm ³)	Part A: 1.15 Part B: 0.11 A/B Mixed: 1.13		
Possible curing cycles	120 minutes at 80°C 50-60 minutes at 100°C 45 minutes at 125°C 30 minutes at 150°C		
Mix Ratio:		Part A	Part B
	By Weight:	100	43
	By volume	100	100
Storage stability (one-component)	6 months at -10°C 1 year at -40°C		
Storage stability (two component)	1 year at room temperature		

APPLICATION PROPERTIES

- The consistency of the **PNE-37850** is well suited for micro-dispensers. The rheology allows for good wetting of surfaces in contact with the resin. It also provides good adhesion to substrates.
- This non-thixotropic, fast curing system offers high strength and thermal shock resistance from approximately -40°C to 150°C.

APPLICATION RECOMMENDATIONS

- **PNE-37850** can be supplied as a one-component system premixed and frozen, ready to use in syringes designed to fit on a micro-dispenser, which has the advantage of avoiding handling operations that encourage the entrainment of air bubbles.
- If supplied as a one-component, **PNE-37850** should be removed from the freezer 15 to 30 minutes before use to allow it to reach a temperature of between 18 and 22°C.
- When **PNE-37850** is supplied as a two-component system, as with many resin products, crystallization of the resin can happen while in storage. **PNE-37850** can be returned to its original state --without any performance and or quality loss-- by heating to 60°C for 1-2 hours. When all the crystals have melted the material should not re-crystallize for 1-2 weeks. To prevent re-crystallization, store in freezer until ready to use.

TYPICAL PROPERTIES OF THE CURED SYSTEM

The properties set out below were obtained after curing for 30 minutes at 150°C. They were determined following measurements carried out in the laboratory over a small number of tests. They are values given by way of guidance, and do not constitute a guarantee. It will be for the user, in all cases, to carry out their own tests to determine whether the **PNE-37850** resin can be used for the particular application the user has in mind.

PROTAVIC AMERICA, INC.

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PHYSICO-CHEMICAL PROPERTIES

Properties	Methods	Units	Typical values
Shore D hardness	ASTM D2240	-----	88

THERMAL PROPERTIES

Properties	Methods	Units	Typical values
Glass transition temperature Tg	EST	°C	80

ELECTRICAL PROPERTIES

Properties	Methods	Units	Typical values
Volume Resistivity • 100 V • 500 V	ASTM D257	Ω-cm	• 6.2 x 10 ¹⁵ • 4.6 x 10 ¹⁵
Dielectric Constant • 120 Hz • 1000 Hz	ASTM D150	--	• 3.5 • 3.4
Dissipation Factor • 120 Hz • 1000 Hz	ASTM D150	--	• 0.007 • 0.008
Dielectric Strength	ASTM D149	V/mil V/mm	• 436 • 17

PRECAUTIONS IN USE

Refer to the material safety data sheet.

PACKAGING

Available in a one- or a two-component system. Inquire with Protavic America for options

The information contained in this data sheet corresponds to the present state of our knowledge; it is intended for your guidance but we are not bound by it since we are not in a position to exercise control over the manner in which our products are used. Moreover; the attention of the user is drawn to the risks that could possibly occur should a product be used for an application other than that for which it is intended.

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